



EXECUTIVE SUMMARY

Information Technology and Construction Capital Planning and Investment Control Guide

Over the past few years, legislative and Administration mandates have been introduced aimed at improving mission performance of the Federal government through more effective strategic, financial, and acquisition management. One significant piece of legislation is the Clinger-Cohen Act of 1996 (CCA), which seeks to improve mission performance by requiring agencies to clearly define and implement a Capital Planning and Investment Control (CPIC) process for selecting, controlling, and assessing IT investments. The CCA has introduced a new level of rigor to the way agencies approach the selection and management of IT initiatives, and has forced agencies to rethink how they do business. The President's Management Agenda reinforces the CCA's emphasis on improving mission performance through a CPIC process. This emphasis on improving capital planning strongly applies to the Federal government's construction investments.

A well defined, effective CPIC process helps ensure that the United States Department of the Interior (DOI) will achieve its mission and goals. It complies with appropriate laws and regulations. An effective CPIC process ensures that investments made by DOI are supported by a strong business case and are based on objective criteria and support the mission and goals.

Annually, DOI invests over \$800 million in Information Technology (IT) assets and services and \$1.2 billion on construction projects. The success of these IT and construction investments directly influences the ability of component bureaus and offices within DOI to execute business plans and fulfill missions.

The Key Components

Recognizing the importance of IT and construction investments, DOI is engaged in an ongoing effort to establish, maintain, and support a capital asset investment analysis and decision-making environment. In the effort to attain this environment, DOI has employed the Secretary of the Interior's 4 C's vision -- cooperation, consultation, and communication in the service of conservation -- to strengthening DOI's CPIC process. The CPIC environment defined in this Guide consists of three key components: executive decision-makers, supporting tools, and repeatable processes. Each is described below:

- ❖ **Executive decision-makers** (described on page 1-4 in Chapter 1 of this Guide)—Consists primarily of the:
 - Management Excellence Council (MEC);
 - Management Initiatives Team (MIT);
 - Executive Capital Planning and Investment Control Team (Executive CPIC);
 - Information Technology Management Council (ITMC) for IT
 - Construction Investment Review Board (CIRB) for construction
 - Bureau or Office Heads; and
 - Bureau¹ investment review boards.

These executive decision-makers oversee the process and are stakeholders in the success of DOI's and the bureaus' CPIC program.

¹ The term "Bureaus" includes Departmental Offices.



- ❖ **Tools**— DOI will use the Information Technology Investment Portfolio System (I-TIPS) for recording and monitoring IT and Construction investments to assist in managing DOI's investment portfolio. I-TIPS is a government-standard, Web-based computer system². The Office of the Chief Information Officer (OCIO) maintains and supports the system for IT and construction.
- ❖ **Processes**—CPIC is DOI's process for (1) making decisions about which initiatives and systems DOI should invest in, (2) creating and analyzing the rationale for these investments over their life cycle, and (3) managing its investment portfolio. As summarized below, this Guide describes the CPIC process in detail.

Summary of this Guide

The *DOI Information Technology and Construction Capital Planning and Investment Control Guide* identifies the processes, activities and outputs necessary to ensure that DOI's investments in IT and construction are well conceived, cost-effective, and support its missions and business goals. It is based on guidance from the Office of Management and Budget (OMB), United States Congress and the General Accounting Office (GAO). The U.S. Department of Agriculture's IT CPIC Guide served as a model in developing this Guide. The Guide also encompasses elements from other CPIC related publications, most notably from the Department of Veterans Affairs, Department of Housing and Urban Development, the General Services Administration, Office of Management and Budget (OMB) and the General Accounting Office.

This Guide describes the current state of CPIC and the future direction for CPIC; identifying and articulating processes and measures. It will be continuously modified to incorporate best practices and lessons learned. The Department will continue to explore and adopt enhancements to DOI's governance of capital assets, to promote an integrated CPIC program, as well as to find avenues for best depicting DOI's CPIC process. For the purposes of accentuating the important issues affecting IT investments, Chapter 2 of this Guide, "Information Technology Capital Planning and Investment Control Guide," is designed to be a stand-alone guide to assist DOI's IT managers and users. It can also be part of this integrated, general Guide to DOI's CPIC process. In Chapter 2, guidance in describing process as well as the tools and issues are designed to assist those responsible for the IT investments and the IT portion of the Department's portfolio. The specific IT guidance in that chapter is reflected in the appendices provided at the end of that chapter. The appendices contained at the end of this Guide are intended to be compatible with IT appendices, yet more generic in scope, encompassing the general requirements of both IT and construction investments.

This Guide introduces multi-year investment planning as a key element within the scope of the CPIC process. Multi-year plans will be prepared for IT investments as well as construction investments. The current Five-year Deferred Maintenance and Capital Improvement Plan is the basis for multi-year construction plans, and the OMB Circular A-11/Exhibit 53 is being adapted as the basis for multi-year IT planning. The plans will be used for long-term planning and budgeting. They will be analyzed as part of CPIC investment portfolio management and will be reviewed to identify potential opportunities to consolidate similar investments into a larger, more effective investment.

All bureaus must employ a certified CPIC process to evaluate and manage major and other capital IT and construction investments. (A "certified" process requires the recommendation of the Executive CPIC boards and the approval of the Assistant Secretary for Policy, Management and Budget.) Under a certified process, Bureau heads must approve multi-year plans, new investments and corrective action plans for major investments at variance with cost, schedule and/or performance baseline. In support of the bureau head, a bureau investment review board thoroughly reviews and provides recommendations on individual investments and the bureau investment portfolio.

² The specific manner in which I-TIPS is to be used in conjunction with the Capital Planning and Investment Control (CPIC) is identified in Appendix P of this Guide.



The CPIC process within the bureau and at the Departmental level is a circular flow of DOI's IT and construction investments through five sequential phases. Chapter 2 of this Guide defines the IT CPIC process and Chapter 3 defines the construction CPIC process. While the nature of the assets differ, many attributes of the governance process for both are similar and complement efforts to establish a truly integrated approach to making critical investment and portfolio decisions. Both chapters present governance in five phases.

As shown in **Figure ES-1**, these phases are:

- ❖ **Pre-Select Phase**—Senior bureau decision-makers assess each proposed investment's support of DOI's strategic and mission goals and incorporate it into a multi-year investment plan. Project stakeholders compile the information necessary for developing a preliminary business case supporting multi-year plans. Individual project proposals are assessed and prioritized in a multi-year plan by each bureau and the Department through executive decision-making bodies.
- ❖ **Select Phase**—Bureaus prepare comprehensive business and investment analyses for proposed IT and construction investments that are thoroughly reviewed within the bureau. Department sponsored executive decision-making bodies review and approve the major IT and construction projects that best support the mission of the organization, strategic plans, and support DOI's approach to enterprise architecture. Approved investments are entered in the budget process or alternative funding sources are identified.
- ❖ **Control Phase**—DOI and its bureaus ensure, through timely oversight, quality control, and executive review that IT and construction initiatives are executed and managed in a disciplined and consistent manner and are meeting cost, schedule, and performance goals. Corrective Action Plans are required for investments that exceed pre-set variances for cost, schedule, and performance goals.
- ❖ **Evaluate Phase**—Actual results of the implemented projects are compared to performance goals to assess investment performance. This is done to assess the project's contribution to carrying out DOI and bureau missions and identify any project changes or modifications that may be needed.
- ❖ **Steady-State Phase**—All capital investments are assessed to ascertain their continued effectiveness in supporting mission requirements, evaluate the cost of continued maintenance, assess potential life cycle improvement opportunities, and consider retirement or replacement options. (For construction investments, this phase is also referred to as "Facility Maintenance.")

For this Guide, the CPIC phases for IT and construction are structured in a similar manner using a set of common elements. These common elements provide a consistent and predictable flow and coordination of activities within each phase of an IT or construction capital investment (See **Figure ES-1**).

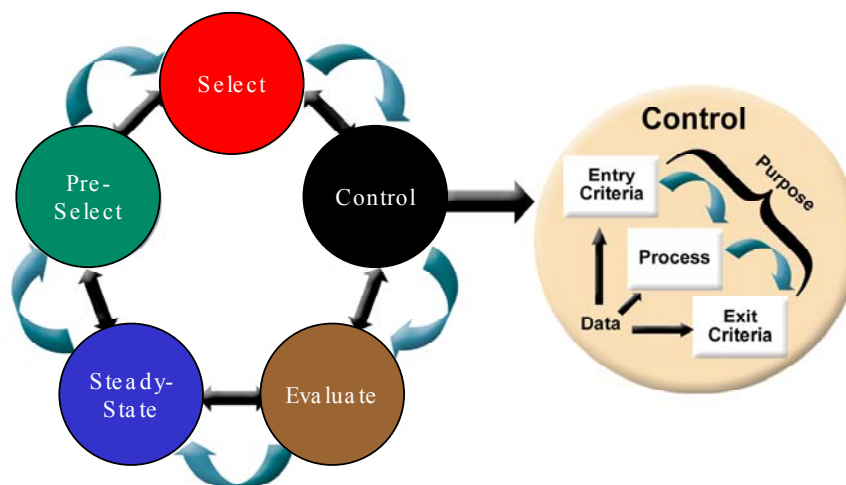


Figure ES-1. The Five CPIC Phases and the Common Elements Within Each Phase

Beyond the detailed CPIC process and activity description, this Guide also includes:



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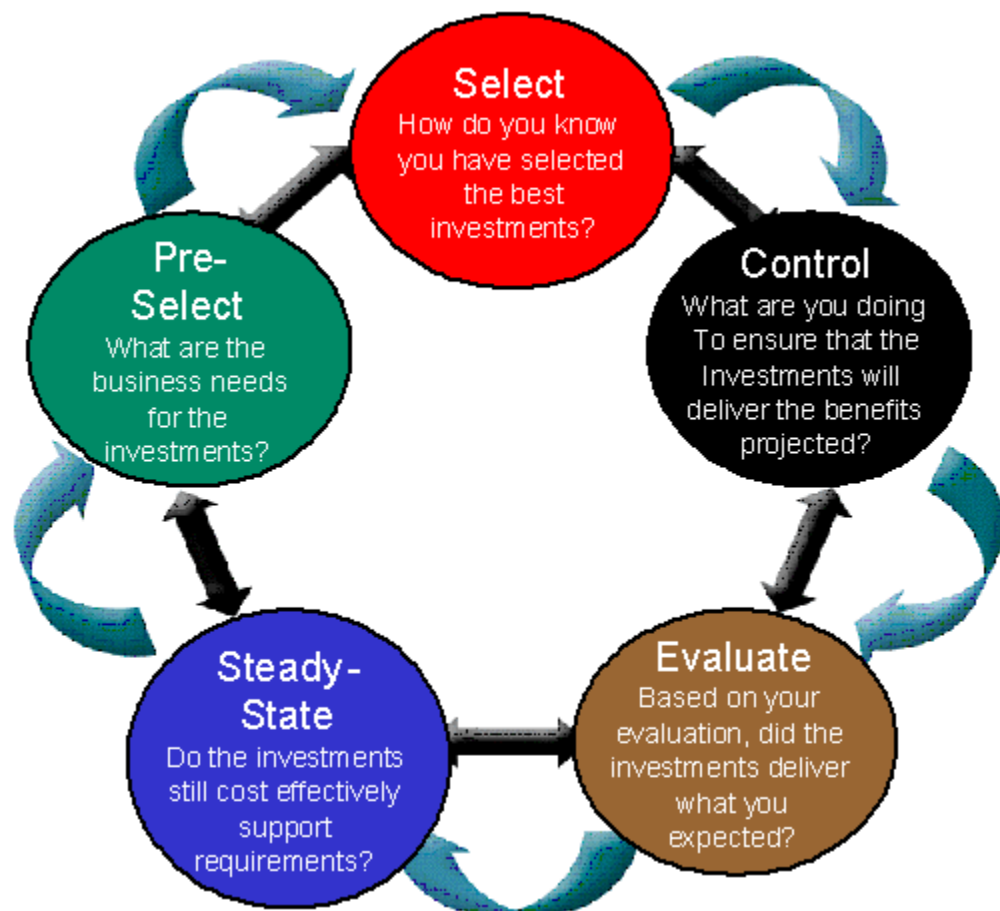
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- ❖ Board procedures for the DOI decision-making bodies, a model for the Bureau investment review boards and the associated operating procedures necessary to conduct investment reviews
- ❖ The scoring criteria to be used by the executive decision-making and investment review boards during investment reviews
- ❖ Guidance on preparing a benefit-cost analysis, calculating earned value, assessing risk, using value engineering, etc.
- ❖ A glossary of terms, key personnel and acronyms used throughout this document
- ❖ A list of references used to create this document.

The CPIC process is supported and maintained within DOI by Policy, Management and Budget's (PMB) Office of Acquisition and Property Management, Office of Budget, Office of the Chief Information Officer (for IT), Office of Managing Risk and Public Safety (for Construction), Office of Planning and Performance Management, Office of Financial Management and the Office of Personnel Policy. For further information about this Guide or the overall CPIC process, please contact Bob Jarcho of the Office of Acquisition and Property Management at 202-208-3329. For inquiries about IT investments and IT CPIC guidance, please call Harriet Brown of the Office of the Chief Information Officer at 202-208-4109 and for construction investments and construction CPIC guidance, call Kurt Gerner of the Office of Managing Risk and Public Safety at 202-208-5399.

Chapter 1

Introduction





CHAPTER 1—INTRODUCTION

DOI has limited resources to allocate to capital investments for information technology and construction. The Department has implemented a comprehensive Capital Planning and Investment Control (CPIC) process to ensure that its portfolio of IT and construction projects adequately addresses DOI's mission goals, and is managed to achieve the expected benefits in accordance with accurate and complete cost, schedule, technical, and performance baselines. Monitoring and controlling current investments in the investment portfolio is as important as selecting the right investments to add to the portfolio. Control mechanisms have been established to minimize the likelihood of project failure or excessive cost and schedule overruns. As DOI's implementation of the CPIC process matures, the effectiveness of these mechanisms will be more fully realized.

1.1 Purpose

This Guide is intended to provide an overview of the United States Department of the Interior's (DOI) CPIC process. The Guide is designed to supplement detailed formal project management training and general CPIC awareness training by providing managers and staff with practical information designed to help them better understand capital asset planning at DOI and meet the requirements set forth by Congress, the Office of Management and Budget (OMB), and the Department. (A formal training component to the DOI CPIC program is being developed and will be incorporated in a subsequent version of this Guide.) It also provides the framework within which DOI can formulate, justify, manage, and maintain a portfolio of IT and construction investments.

This Guide describes the DOI CPIC process including business cases as reflected in OMB Circular A-11 Exhibit 300s (Exhibit 300). As such, it outlines a framework for DOI and its bureaus³ to effectively manage its IT and Construction investment portfolio. This investment management process allows DOI to optimize the benefits of scarce IT and construction resources, ensure investments meet the strategic needs of DOI (**see Appendix T—Strategic Planning-President's Management Agenda**), and comply with applicable laws and guidance.

As the Department's implementation of the CPIC process matures and the capabilities of those responsible for aspects of the CPIC process are strengthened through training and experience, the CPIC process defined in this Guide needs to be continually reviewed and evolve. The Guide will be updated on a periodic basis to reflect lessons learned and best practices. Under a formal change-control system, the Guide will be modified by a board comprised of staff from the Department and the bureaus. Modifications will be recommended to the Executive CPIC's Information Technology Management Council and the Construction Investment Review Board for approval.

1.2 CAPITAL PLANNING AND INVESTMENT CONTROL OBJECTIVES

CPIC is a structured, performance-based, integrated approach to managing the risks and returns of capital assets for a given mission. The CPIC process provides for the annual cycle of selection, and a continuous control, life cycle management, and evaluation of IT and construction investments. The process is focused on the effective use of investment resources to carry out the Department's mission.

CPIC requires discipline, executive management involvement, accountability, and focus on risks and returns using quantifiable measures. CPIC is crucial to the successful management of all capital investments with special emphasis on high dollar value, high risk, and complex IT and construction projects.

³ The term "Bureaus" includes Departmental Offices.



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The objective of the CPIC process is to deliver substantial business benefit to DOI and return on investment (ROI) for the taxpayer throughout the life cycle of an investment. Some specific objectives are to:

- ❖ Achieve DOI's mission and goals;
- ❖ Balance potential benefits against costs and risks;
- ❖ Align proposed system investments with strategic and intermediate goals;
- ❖ Measure performance and net benefit for dollars invested;
- ❖ Provide continuous feedback to help senior managers make decisions on new or ongoing investments; and
- ❖ Ensure that taxpayer dollars are spent effectively.

These objectives are achieved through the five phases, pre-select, select, control, evaluate, and steady-state, of the CPIC process described in this Governance Guide. (see **Figure 1-1—CPIC Information and Process Flow**).

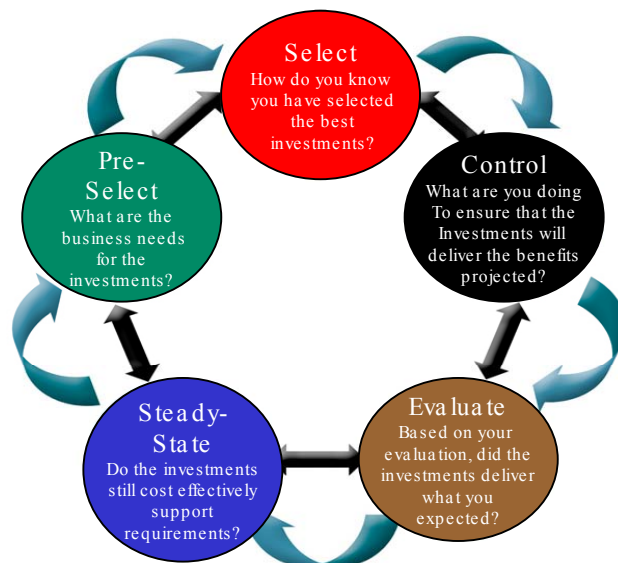


Figure 1-1. CPIC Information and Process Flow

1.3 Legislative Background and Associated Guidance

The enactment of new legislation and regulations has forced management to assign accountability, reduce spending, eliminate wasteful management, and maximize the value of investments. Agencies are directed to incorporate thorough planning, risk management, full funding, portfolio analysis, and cost effective life cycle management into their CPIC process and investments. The legislation encourages agencies to integrate the CPIC process with the processes for making budget, financial, and program management decisions. This legislation and guidance includes the:

- ❖ The Chief Financial Officer (CFO) Act of 1990
- ❖ The Government Performance and Results Act of 1993 (GPRA)
- ❖ The Federal Acquisition Streamlining Act of 1994 (FASA)



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- ❖ The Paperwork Reduction Act of 1995 (PRA)
- ❖ The Clinger-Cohen Act of 1996 (CCA)
- ❖ The Government Paperwork Elimination Act of 1998 (GPEA)
- ❖ OMB Circular A-11, Preparation and Submission of Budget Estimates
- ❖ OMB Circular A-130, Management of Federal Information Resources
- ❖ Government Information Security Reform Act of 2000 (GISRA)

This CPIC Guide is based upon the IT and construction aspects of these mandates. The Guide focuses specifically on the Clinger-Cohen Act (CCA) requirements. Though CCA addresses IT related issues, the Act has relevance to and can be applied to the life-cycle management of construction investments. The CCA's objective is that senior managers design and use a CPIC process to systematically maximize the benefits of capital investments. The Act prescribes that the CPIC process:

- ❖ Provide for the selection of investments to be made by the executive agency, the management of such investments, and the evaluation of the results of such investments;
- ❖ Be integrated with the processes for making budget, financial, and program management decisions within the executive agency;
- ❖ Include minimum criteria to be applied in considering whether to undertake a particular investment, criteria related to the quantitatively expressed projected net risk-adjusted return on investment and specific quantitative and qualitative criteria for comparing and prioritizing alternative information systems investment projects;
- ❖ Provide for identifying investments that would result in shared benefits or costs for other Federal agencies and State or local governments;
- ❖ Require identification of quantifiable measurements for determining the net benefits and risks of a proposed investment; and
- ❖ Provide the means for senior management to obtain timely information regarding the progress of an investment, including a system of milestones for measuring progress, on an independently verifiable basis, in terms of cost, capability of the system to meet specified requirements, timeliness, and quality.

The DOI CPIC process also incorporates guidance on Information Technology Investment Management (ITIM) process maturity stages, issued by the General Accounting Office (GAO) and described in **Figure 1-2**. The ITIM maturity stages will be used as a guide to measure DOI's and its bureaus' progress in strengthening its CPIC process.

MATURITY STAGE	DESCRIPTION	CRITICAL PROCESSES
Stage 1 – Creating Investment Awareness	There is little awareness of investment management techniques. Capital asset management processes are ad hoc, project-centric, and have widely variable outcomes.	<ul style="list-style-type: none">• No Defined Critical Processes
Stage 2 – Building the Investment Foundation	Repeatable investment control processes are in place and key foundation capabilities have been implemented.	<ul style="list-style-type: none">• Investment Review Board Operation• Project Oversight• Asset Tracking• Business Needs Identification for Projects• Proposal Selection



MATURITY STAGE	DESCRIPTION	CRITICAL PROCESSES
Stage 3 – Developing a Complete Investment Portfolio	Comprehensive capital asset portfolio selection and control processes are in place that incorporate benefit and risk criteria linked to mission goals and strategies.	<ul style="list-style-type: none">• IT and Construction Authority Alignment of Investment Review Boards• Portfolio Selection Criteria Definition• Investment Analysis• Portfolio Development• Portfolio Performance Oversight
Stage 4 – Improving the Investment Process	Process evaluation techniques focus on improving the performance and management of the organization's capital investment portfolio.	<ul style="list-style-type: none">• IT Post-Implementation Reviews/ construction Post-Occupancy Evaluations• Portfolio Performance Evaluation and Improvement• Systems and Technology Succession Management
Stage 5 – Investing for Strategic Outcomes	Investment benchmarking and change management techniques are deployed to strategically shape business outcomes.	<ul style="list-style-type: none">• Investment Process Benchmarking• Business Process Change Management

Figure 1-2. GAO Information Technology Investment Management (ITIM) Process Maturity Stages

The DOI CPIC process will be periodically updated to reflect the issuance of new or revised mandates and guidance. A list of investment management reference guides and memos is contained in **Appendix X—References**.

1.4 Management Approach

All IT and construction projects within DOI must comply with this CPIC guidance. All IT and construction projects must be reviewed by bureau investment review boards. Only those IT and Construction projects that are considered to be “major” and strategic investments for the Department are required to be included in the DOI capital investment portfolio (as noted in the following section of the Chapter on “Thresholds for Capital Programming”).

All bureaus must employ a similar certified Capital Planning and Investment Control Process (CPIC) to evaluate and manage major and other capital IT and construction investments (see **Appendix R—CPIC Process Assessment** for the criteria to be used to certify the bureaus’ CPIC process for evaluating and managing major and other capital IT and construction investments). A “certified” process requires the recommendation of the Executive CPIC boards and the approval of the Assistant Secretary for Policy, Management and Budget. In a certified CPIC process, Bureau heads must approve multi-year plans, new capital IT and construction investments and corrective action plans for major and other investments at variance with cost, schedule and/or performance baseline. In support of the bureau head, a bureau investment review board reviews and provides recommendations on individual investments and the bureau investment portfolio (**see Appendix W—Portfolio Management**).

For Departmental and bureau systems, adherence to the following six “DOI CPIC Ground Rules” is critical to building a sound, credible, sustainable program.



“DOI CPIC Ground Rules”

- ❖ All bureaus and offices must employ a certified Capital Planning and Investment Control (CPIC) process to evaluate and manage major and other capital IT and construction investments
 - Bureau/office head approval
 - Bureau Investment Review Board review and recommendation.
- ❖ All investments require a business case.
- ❖ Thresholds for investments proposed for Departmental approval will be established based on the maturity of the bureau CPIC process.
- ❖ Investment business cases are to be presented in a complete, accurate and timely OMB Exhibit 300 format.
- ❖ Proposed investments with no or inadequate business cases will not be funded
- ❖ For ongoing investments: additional funding, change of scope, or time extensions beyond the baseline in the approved Exhibit 300 require bureau and Departmental CPIC review and recommendation, and Secretary and OMB approval.

A certified bureau CPIC process within DOI must establish and maintain a project management and portfolio management capability to:

- ❖ Identify capital asset projects (new and steady state) necessary for the bureau and Interior to meet mission and performance goals consistent with the President's Management Agenda and the Department's and the bureaus' strategic plans including Enterprise Architecture for IT;
- ❖ Avoid capital assets duplication within the bureau, Department and with other Federal agencies. Partner with other bureaus and other agencies whenever possible;
- ❖ Prioritize capital asset projects to better manage overall program budget needs;
- ❖ Invest in new projects and or maintenance of existing assets that support high priority missions and services to the public;
- ❖ Select the capital asset project alternative that has the best value/highest benefit to cost ratio;
- ❖ Use value engineering to ensure project life cycle costs are the lowest possible and reduce project risks where appropriate (**see Appendix U—Value Engineering**);
- ❖ Adhere to effective project management principles, employ CPIC practices and techniques provided in the Appendices to this Guide and, importantly, assign trained project managers to ensure that projects are completed on schedule and within budget;
- ❖ Modify or terminate projects that are over budget or behind schedule;
- ❖ Ensure accountability for results and performance of each project throughout its life cycle;
- ❖ Monitor ongoing and completed projects for performance; and
- ❖ Identify when to terminate or replace investments that have low cost operation and maintenance efficiency, are outdated or no longer meet the mission needs.

Multi-year investment planning is a key element within the scope of the CPIC process. Multi-year plans will be prepared for IT investments as well as construction investments. The current Five-year Deferred Maintenance and Capital Improvement Plan is the basis for multi-year construction plans, and the OMB Exhibit 53 is being adapted as the basis for multi-year IT planning. All capital investments regardless of size in the areas of IT and construction should be represented on one of these plans. The plans will be used as a basis for long-term planning and budgeting. They will be analyzed as part of CPIC investment portfolio management and will be reviewed to identify potential opportunities to consolidate similar investments into a larger, more effective investment.



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1.5 Thresholds for Capital Programming

The CPIC process is useful for all long-term investments in capital assets. However, as noted in OMB's Capital Programming Guide, agencies should consider the significance of the investment to the agency -- both in cost and its strategic importance -- in determining the level of effort devoted in capital programming. Full analysis and management should be applied to capital assets (including major modifications or enhancements to existing systems) that meet the criteria for a "major project" as defined in this section.

Major IT and Construction projects meet at least one of the following criteria:

Major Information Technology Investments⁴

- ❖ Total lifecycle costs greater than \$35 million⁵
- ❖ Financial systems with a life cycle cost greater than \$500,000⁶
- ❖ Multiple-bureau and/or agency projects
- ❖ Mandated by legislation or executive order, or identified by the Secretary as critical
- ❖ Requires a common infrastructure investment
- ❖ Department strategic or mandatory-use system
- ❖ Significantly differs from or affects the Department infrastructure, architecture, or standards guidelines
- ❖ High risk as determined by OMB, GAO, Congress and/or the CIO
- ❖ Directly supports the President's Management Agenda Items of "high executive visibility"
- ❖ E-Government in nature or uses e-business technologies (must be identified as major projects regardless of the costs).

In addition to the criteria noted above, OMB Circular A-11 requires that DOI and other agencies itemize their IT systems so that major projects should account for at least 60 percent of the IT investment portfolio for annual reporting to OMB. For FY 2003, agencies identified an average of 52 percent of their total IT investments as "major." Major projects should account for at least 60 percent of the IT investment portfolio for FY 2004 reporting. To attain the 60 percent, it may result in the re-designation of some "small/other" systems to "major system."

⁴ Any major project reported in the OMB A-11 Exhibit 53 is also a major project for the purposes of Exhibit 300.

⁵ IT investments with life cycle costs greater than \$5 million require review by the Executive CPIC (see Section 1.6 of this chapter for details of roles and responsibilities of bureau and Departmental decision-making bodies) and approval if the bureau has a certified CPIC process. For those bureaus that do not have a certified CPIC process the threshold is greater than \$500,000. Generally, only those deemed as "major" are fully reviewed, approved, and monitored within the Department's CPIC process and are approved and monitored by OMB. For other investments that are not deemed "major", generally the bureaus follow their CPIC process to review, approve and monitor these investments. However, OMB has the discretion to review, approve, and monitor "non-major" projects that it determines merit attention.

⁶ OMB has defined a financial system as an information system, comprised of one or more applications, that is used for any of the following: collecting, processing, maintaining, transmitting, and reporting data about financial events; supporting financial planning or budgeting activities; accumulating and reporting cost information; or supporting the preparation of financial statements.



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MAJOR CONSTRUCTION INVESTMENTS

- ❖ Total design and construction costs greater than \$10 million
- ❖ Directly supports the President's Management Agenda Items of "high executive visibility"
- ❖ Multiple-bureau and/or agency projects
- ❖ Other significant projects requested by OMB

These investments are considered to be strategic for the Department and, thus require greater documentation as well as Departmental CPIC review and approval. They are reported to OMB through an Exhibit 300 and included in the DOI capital investment portfolio.

1.6 Roles and Responsibilities

Departmental and bureau management decision-making and reviewing bodies play an ongoing role in managing the CPIC process. The governing and approval bodies are responsible for ensuring that new investments, investments under development and those in steady-state or maintenance mode meet DOI strategic, business, and technical objectives. Their membership and operations are documented and they meet periodically to select investments for funding and oversee the management of investments from the control through steady-state (operation and maintenance) phases. The Department's governance hierarchy described below is also diagrammed in **Figure 1-3—DOI CPIC Governance**.

Management Excellence Council (MEC) Responsible for validating recommendations from the Management Initiatives Team and recommending strategic investments for the Secretary's approval. The MEC also serves as an appeal board. Its members consist of the Assistant Secretaries and Bureau heads, is chaired by the Secretary and vice-chaired by the Deputy Secretary.

Management Initiatives Team (MIT) Responsible for articulating the Department's investment strategy, validating investment scoring from the Executive CPIC, prioritizing investments, resolving duplication of efforts, identifying project integration opportunities, recommending strategic investments for the MEC and serving as an appeal board. Its members consist of Deputy Bureau Directors and Deputy Assistant Secretaries, chaired by the Assistant Secretary for Policy, Management and Budget (PMB) with support and coordination by PMB staff from the Office of Acquisition and Property Management, Office of Budget, Office of the Chief Information Officer (OCIO), Office of Managing Risk and Public Safety (MRPS), Office of Financial Management, Office of Planning and Performance, and Office of Personnel Policy.

Executive Capital Planning and Investment Control Team (Executive CPIC) Responsible for reviewing and scoring new IT and construction investments, investments under development, and investments in a steady-state or maintenance mode. The Executive CPIC recommends strategic investments and priorities for the MIT. The Executive CPIC is also responsible for assessing how well potential major investments meet a predetermined set of capital planning decision criteria, identifying duplication of efforts and providing recommendations to the MIT. This body is responsible for maintaining the multi-year planning process and portfolio, and process oversight. It ensures the timely reporting to the bureaus of Secretarial, MEC, MIT and Executive CPIC decisions.

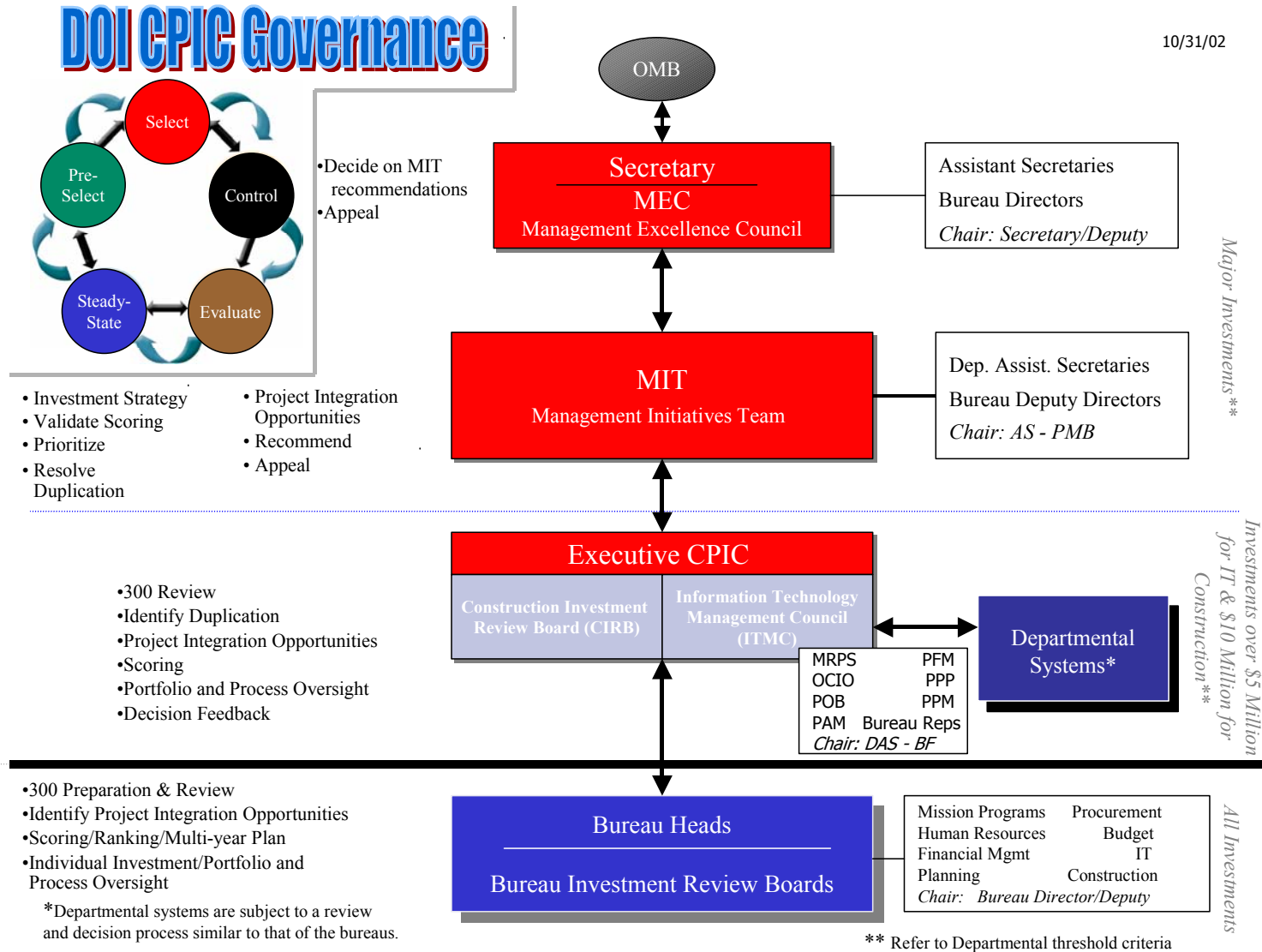
The Deputy Assistant Secretary for Budget and Finance, with assistance from Policy, Management and Budget (PMB) staff offices in coordination with the Office of the Chief Information Officer (OCIO), provides guidance and oversight to these two boards on matters related to CPIC governance.

The Executive CPIC's work is accomplished primarily through two management teams of the MIT. The IT investments are handled by the Information Technology Management Council (ITMC), comprised of the bureaus' Chief Information Officers and co-chaired by the CIO and the Senior Information Officer, U.S. Geological Survey. The Construction investments are handled by the Construction Investment Review Board (CIRB). This team is comprised senior Departmental and bureau officials with responsibility for facility management.

Figure 1-3. DOI CPIC Governance



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Bureau Investment Review Boards Responsible for assessing how well investments address identified business needs as expressed in the Bureau's multi-year plans for IT and construction investments. The boards within each bureau establish criteria that will be used when making investment decisions and approve those investments that best support the Bureau Strategic Plan. They are responsible for ensuring the preparation and thorough review of business cases, identifying project integration opportunities, scoring and ranking investments, multi-year planning, and managing bureau investment portfolios and overseeing the bureau's CPIC process.

Membership includes representation from the following areas: mission programs, acquisition, budget, financial management, information management, administration, planning, construction and human resources. The Bureau investment review board reports to the Bureau Director or Bureau Deputy Director who approves projects and plans and submits them to the Executive CPIC.

The roles and responsibilities for these decision-making bodies are detailed in **Appendix A—Board Procedures**. The descriptions of key personnel are described in **Appendix W—Glossary of Terms, Key Positions and Acronyms**.

1.7 Process Overview

The DOI CPIC process contains five phases (Pre-Select, Select, Control, Evaluate, and Steady-State). The CPIC process within the bureau and at the Departmental level is a circular flow of DOI's IT and construction investments through the five sequential phases. Chapter 2 of this Guide defines the IT CPIC process and Chapter 3 defines the construction CPIC process. While the nature of the assets differ many attributes of the governance process for both are similar and complement efforts to establish a truly integrated approach to making critical investment and portfolio decisions. Both chapters present governance in five phases.

The Department will continue to explore and adopt enhancements to DOI's governance of capital assets, to promote an integrated CPIC program, as well as to find avenues for best depicting DOI's CPIC process. For the purposes of accentuating the important issues affecting IT investments, Chapter 2 of this Guide, "Information Technology Capital Planning and Investment Control Guide," is designed to be a stand-alone guide to assist DOI's IT managers and users. It can also be part of this integrated, general Guide to DOI's CPIC process. In Chapter 2, guidance in describing process as well as the tools and issues are designed to assist those responsible for the IT investments and the IT portion of the Department's portfolio. The specific IT guidance in that chapter is reflected in the appendices provide at the end of that chapter. The appendices contained at the end of this Guide are intended to be compatible with IT appendices, yet more generic in scope encompassing the general requirements of IT and construction investments.

As detailed in this document, each phase contains the following common elements:
(see **Figure 1-4—The Five CPIC Phases and the Common Elements within Each Phase**.)

- ❖ **Purpose**—Describes the objective of the phase;
- ❖ **Entry Criteria**—Describes the phase requirements, and thresholds for entering the phase;
- ❖ **Process**—Describes the type of justification, planning, and review that will occur in the phase; and
- ❖ **Exit Criteria**—Describes the actions that must be successfully completed and the final documentation needed for proceeding to the next phase.

In the management of an investment, completing one phase is necessary before beginning a subsequent phase. In each phase, the Department investment review boards oversee all major capital IT and construction investments and the bureau investment review boards oversee both major and non-major investments. Ultimately, for major projects, the MEC chaired by the Secretary approves or rejects an investment's advancement to the next phase. This ensures that each investment receives the appropriate level of managerial review and that coordination and accountability exist.



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New Proposals

Bureaus that have new IT and construction investment proposals should prepare an investment proposal/preliminary business case (**see Appendix C—Mission Need Statement**) and, if approved, a detailed business case utilizing the OMB Exhibit 300 (**see Appendix M—Exhibit 300**), according to the guidelines provided in this document.⁷

The bureau investment review board within each bureau, under the leadership of bureau directors, evaluates projects for quality and conformance to policies and guidelines, and reviews and scores them against the applicable strategic investment criteria (**see Appendix K—Strategic Investment Criteria**). For investments above the threshold described in Section 1.5 (Thresholds for Major IT and Construction Investments) of this chapter, the Executive CPIC also evaluates projects for quality and conformance to policies and guidelines, and reviews and scores them against the applicable strategic investment criteria. The MIT reviews the Executive CPIC's analysis and scoring of the major investment initiatives and defines a Departmental investment strategy. A recommendation is then prepared and forwarded to the MEC for validation and recommendation to the Secretary for approval/disapproval action.

Approval, if granted, is an approval of concept, indicating that the bureau has done the preparatory work necessary to fully justify the investment, and has the mechanisms in place to manage the investment through acquisition (**see Appendix S—Acquisition Strategy**), development, implementation, and operation. The investment must still compete for funding as it goes through the budget process (**see Appendix V—Budgeting for Investments**). The CPIC is a fluid, dynamic process in which proposed and ongoing projects are continually monitored throughout their life cycle. Successful investments, as well as those that are terminated or delayed are evaluated both to assess the impact on future proposals and to benefit from any lessons learned (**see Appendix J—Post Implementation Assessments**).

For projects not approved, project sponsors must adhere completely (including re-competing) to the bureau and, as required, the Departmental CPIC process, if and when the proposal is resubmitted for consideration. All investments must appear on a current multi-year investment plan. Bureaus are responsible for carrying out the training and establishing the necessary internal controls to ensure that managers do not authorize capital expenditures from any funds for construction or IT that do not appear on a plan.

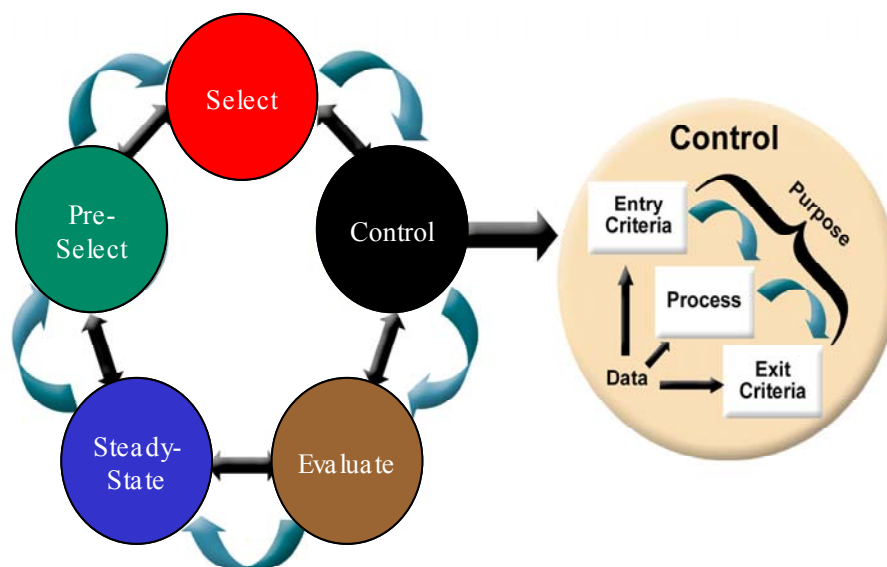


Figure 1 - 4. The Five CPIC Phases and the Common Elements Within Each Phase

⁷ The proposal's length and level of detail should be commensurate with the proposed investment's size or impact.



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1.8 CPIC Process Future Direction

Adherence and commitment to DOI's CPIC scope, roles and responsibilities and process will enable the CPIC process to mature to ensure that each investment supports the mission and is effectively managed. As DOI implementation of the CPIC process matures, DOI will enable the integration of portfolios to develop a capital planning process that allows for trade-offs among all types of capital assets including IT and construction. Capital assets will be compared against one another to create a prioritized portfolio of all major capital assets. DOI will choose and actively manage a portfolio of capital investments that maximizes return to the taxpayer and Government at an acceptable level of risk.

This Guide, Version 1.0 provides that both IT and construction projects go through similar management review processes but are not compared or ranked against each other. Through coordination and adoption of best practices, DOI will define a process that will allow for trade-offs between IT and construction projects. DOI is working toward implementing this process for the FY 2005 budget. In addition, DOI will identify and expand the types of capital assets to be subject to capital planning and investment control. These additional types of capital assets will also be compared to IT and construction projects in order to allow trade-offs among all capital assets. This CPIC process will have bureau and Departmental review boards/committees ranking all projects in one portfolio regardless of project type.

1.9 CPIC Timechart

The DOI CPIC process supports the major budget milestones and procurement activities as outlined in **Figure 1-5—Major Activities in the DOI Fiscal Year Budget Cycle.**

TIME PERIOD (CURRENT FY)	PROCESS/EVENT	PRODUCTS/DELIVERABLES
OCTOBER – DECEMBER	<ul style="list-style-type: none"> • Congress passes appropriations for current year (CY) • (Nov) OMB recommends funding levels for budget year (upcoming in about 11 months) in the pass-back of the President's next budget (CY + 1) • Department and bureaus update capital investment portfolio to reflect current year budget, President's next budget (CY + 1) and strategic plans • Bureaus formulate the pre-select multi-year plans reflecting IT and construction priorities for (CY + 2) • Portfolio and project quarterly control review (1st quarter) is conducted for previous quarter's performance 	<ul style="list-style-type: none"> • Capital investment portfolio is updated • Multi-year Plans are developed • Quarterly report of projects at variance
JANUARY – FEBRUARY	<ul style="list-style-type: none"> • President's Budget (CY + 1) is released • Portfolio and project quarterly control review (2nd quarter) is conducted for previous quarter's performance • Based on Executive CPIC recommendations concerning multi-year plans, MIT approves pre-select projects for inclusion in the capital investment portfolio 	<ul style="list-style-type: none"> • Executive CPIC issues FY+2 budget year requirements • Capital investment portfolio is updated • Quarterly report of projects at variance



TIME PERIOD (CURRENT FY)	PROCESS/EVENT	PRODUCTS/DELIVERABLES
MARCH – MAY	<ul style="list-style-type: none"> Bureaus prepare 300s for proposed investments and update current investments for CY + 2 - submit to PMB Portfolio and project quarterly control review (3rd quarter) is conducted for previous quarter's performance Portfolio is projected for multi-year planning - Bureaus initiate preparation of Exhibit 53 PMB distributes call for CY+ 2 budget PMB analyzes CY+ 2 IT and construction budget formulation 	<ul style="list-style-type: none"> Capital investment portfolio is updated Executive CPIC approves FY+1 and FY+2 portfolio
JUNE – SEPTEMBER	<ul style="list-style-type: none"> Bureaus submit all CY+ 2 budget requests to PMB (Aug) Portfolio and project quarterly control review (4th) is conducted for previous quarter's performance Based on Executive CPIC and MIT recommendations MEC approves projects for inclusion in the Department's proposed revised portfolio Secretary decides on CY + 2 budget request and submits to OMB Bureaus complete Exhibit 300s and Exhibit 53 and submit to PMB for final review and submittal to OMB for CY + 2 Bureaus and the Department review CPIC process for previous year for lessons learned and best practices for revision of bureau and Department CPIC Guidance 	<ul style="list-style-type: none"> Capital investment portfolio is updated The Department submits FY+2 budget to OMB The Department submits OMB Exhibit 300's and Exhibit 53's to OMB Revised CPIC Guides

Figure 1-5. Major Activities in the DOI Fiscal Year Budget Cycle

1.10 Document Structure

This document is divided into three chapters and appendices as described below:

- ❖ **Chapter 1—Introduction (this chapter).** Describes the CPIC purpose, scope, thresholds, roles, process, and document structure.
- ❖ **Chapter 2—Information Technology.** Describes the governance process for any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For purposes of this definition, equipment is "used" by an agency whether the agency uses the equipment directly or it is used by a contractor under a contract with the agency that (1) requires the use of such equipment or (2) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. Information technology includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. Not included is any equipment that is acquired by a Federal contractor incidental to a Federal contract.

For the purposes of accentuating the important issues affecting IT investments, Chapter 2 of this Guide, "Information Technology Capital Planning and Investment Control Guide," is designed to be a stand-alone guide to assist DOI's IT managers and users.



- ❖ **Chapter 3—Construction.** Describes the governance process for any major rehabilitation, remodeling, expansion or new construction project with cost of \$10 million⁸ or higher for any building, site improvement, utility system, water or wastewater treatment facility, Federal Highway Administration/Department of Transportation-funded road and trail, dam safety modification or any other constructed assets.

The presence of an investment in another budget category other than construction, such as maintenance, or from sources such as recreation fees does not preclude the need to prepare a business case described using the OMB Exhibit 300 format.

Chapters 2 and 3 are divided into five sections in which the governance requirements of the life-cycle phases of capital IT and Construction investments are described. The governance process described in the following two chapters covers the planning and investment control of major investments. For other capital IT and Construction investments (not deemed major), bureaus are to establish a similar CPIC process that emulates the steps and requirements of the five phases of a systematic CPIC process.

- ❖ **Pre-Select Phase.** Provides a process and mechanism to assess an investment's support of agency strategic and mission needs.
- ❖ **Select Phase.** Provides tools to ensure that IT and Construction investments are chosen that best support the agency's mission and that support DOI's approach to enterprise architecture.
- ❖ **Control Phase.** Provides guidance to ensure that IT and Construction initiatives are conducted in a disciplined, well-managed, and consistent manner that promote the delivery of quality products and result in initiatives that are completed within scope, on time, and within budget.
- ❖ **Evaluate Phase.** Provides guidance on comparing actual to expected results once a project has been fully implemented.
- ❖ **Steady-State Phase.** Provides a means to assess mature systems to ascertain their continued effectiveness in supporting mission requirements and to evaluate the cost of continued support or potential retirement and replacement. For construction investments, this phase is also referred to as "Facility Maintenance."

1.11 Points of Contact

The CPIC process is supported and maintained within DOI by Policy, Management and Budget's (PMB) Office of Acquisition and Property Management, Office of Managing Risk and Public Safety (for Construction), and the Office of Budget, and by the Office of the Chief Information Officer (for IT). In addition, The Office of Budget, the Office of Planning and Performance, the Office of Financial Management and the Office of Personnel Policy provide leadership and support for significant elements of DOI's CPIC process. For further information about this Guide or the overall CPIC process, please contact Bob Jarcho of the Office of Acquisition and Property Management at 202-208-3329. For inquiries about IT investments and IT CPIC guidance, please call Harriet Brown at 202-208-4109 and for construction investments and construction CPIC guidance, call Kurt Gerner of the Office of Managing Risk and Public Safety at 202-208-5399.

Appendices

The Appendices provide guidance on preparing a business case (OMB Exhibit 300) and establishing and sustaining a capital planning and investment control program.

- A. **Board Procedures**—Provides the detailed roles and responsibilities of review and decision-making bodies.
- B. **CPIC Process Checklist**—Provides a checklist of the process steps investments must complete for each CPIC phase.

⁸ Projects between \$2 million and \$10 million require a business case that is reviewed, selected, and managed through the bureau-level CPIC program.



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- C. Mission Needs Statement—Provides a template for evaluating the mission need(s) for a new IT or Construction investment.
- D. Steady-State Investment Review Template (IT Only)—Provides a template for evaluating investments in the Steady-State Phase.
- E. Benefit-Cost Analysis—Provides guidance on completing a Benefit-Cost Analysis (BCA)
- F. Risk Assessment—Provides guidance on conducting a risk assessment for IT and Construction capital planning.
- G. Performance Measurement—Provides guidance on developing performance measures for IT and Construction investments.
- H. Project Management—Provides guidance on managing IT and Construction investments.
- I. Earned Value Analysis—Provides guidance on conducting earned value analysis.
- J. Post Implementation Assessments—Provides guidance on conducting a Post-Implementation Review (PIR) for IT and Post-Occupancy Evaluations for construction.
- K. Strategic Investment Criteria—Provides the scoring criteria used by the bureau investment review boards, the Executive CPIC, the MIT and the MEC during the annual investment review.
- L. e-Government (IT Only)—Provides guidance on e-Government information to support the investment.
- M. OMB Exhibit 300—This is the basic format for submitting the investment package.
- N. Security Infrastructure Guide (IT Only)—Provides guidance concerning cyber security information to support the investment.
- O. Capital Planning for Telecommunications Systems (IT Only)—Provides guidance on telecommunications information to support the investment.
- P. I-TIPS Requirements by Phase—Provides a summary of the data required in the Information Technology Investment Portfolio System (I-TIPS) for each CPIC phase.
- Q. Quarterly/Milestone Control Review Checklist—Lists the critical areas the Control Review Team discusses during each Quarterly/Milestone Review.
- R. CPIC Process Assessment—The criteria to be used to certify the bureaus' CPIC processes for evaluating and managing major and other capital IT and construction investments.
- S. Acquisition Strategy—Provides guidance on developing an investment's acquisition strategy.
- T. Department's Planning Structure—Presents an overview of, and links to, the President's Management Agenda and the Department's Strategic Plan and annual performance plan, which establish the basic framework to be supported by all Department investments.
- U. Value Engineering—Provides guidance on using value engineering design and development of IT and Construction projects.
- V. Budgeting for Capital Investments Planning and Investment—Provides guidance on estimating and entering capital asset investment budget data into Exhibits 300 and 53 for the Department as well as in preparing the budget request for investment funds.
- W. Glossary of Key Terms and Acronyms — Provides definitions for terms and acronyms used throughout this document.
- X. References—Provides a list of references used to develop this document.